Amendments to the Claims are reflected in the listing of claims which begins on page 3 of this paper.

Remarks/Arguments in response to the Office Action begins on page 12 of this paper.

I. AMENDMENT

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-52. (canceled)

53. (withdrawn) The process according to claim 47, wherein said opioid receptor polypeptide is a truncated opioid receptor polypeptide.

54. (withdrawn) The process of claim 53, wherein said truncated opioid receptor polypeptide is a truncated kappa or a delta opioid receptor polypeptide.

55. (withdrawn) The process of claim 53, wherein said truncated opioid receptor polypeptide comprises amino acid residues 79 to 380 of a kappa opioid receptor polypeptide.

56. (withdrawn) The process according to claim 47, wherein said opioid receptor polypeptide is a mutant opioid receptor polypeptide.

57. (withdrawn) The process according to claim 56, wherein said mutant opioid receptor polypeptide is a mORD1 polypeptide having an asparagine at residue 95 instead of an aspartate.

58. (withdrawn) The process according to claim 47, wherein providing said opioid receptor polypeptide is transfecting a host cell with a polynucleotide that encodes an opioid receptor polypeptide to form a transformed cell and maintaining said transformed cell under biological conditions sufficient for expression of said opioid receptor polypeptide.

59. (canceled)

60. (withdrawn) The process of claim 59, wherein the opioid receptor polypeptide comprises a portion of a kappa opioid receptor polypeptide.

61. (withdrawn) The process of claim 60, wherein the opioid receptor polypeptide comprises a portion of the second extracellular loop of the kappa opioid receptor polypeptide.

62. (withdrawn) The process of claim 61, wherein the opioid receptor polypeptide comprises a negatively charged region of the second extracellular loop of the kappa opioid receptor.

63-67. (canceled)

68. (withdrawn) The process of claim 59, wherein the opioid receptor polypeptide comprises a truncated opioid receptor polypeptide.

69. (withdrawn) The process of claim 68, wherein said truncated opioid receptor polypeptide is a truncated kappa opioid receptor polypeptide.

70. (withdrawn) The process of claim 69, wherein the truncated opioid receptor polypeptide comprises amino acid residues 79 to 380 of a kappa opioid receptor polypeptide.

71. (withdrawn) The process of claim 69, wherein the truncated opioid receptor polypeptide comprises amino acid residues 167 to 228 of a kappa opioid receptor polypeptide.

72. (withdrawn) The process of claim 59, wherein the candidate specific kappa opioid receptor agonist is pre-screened determining whether the candidate has a positive charge.

73. (withdrawn) The process according to claim 59, wherein providing said opioid receptor polypeptide is transfecting a host cell with a polynucleotide that encodes an opioid receptor polypeptide to form a transformed cell and maintaining said transformed cell under biological conditions sufficient for expression of said opioid receptor polypeptide.

74. (withdrawn) A specific kappa opioid receptor agonist isolatable by the process of claim 59.

75. (withdrawn) The process according to claim 47, wherein said opioid receptor polypeptide is a delta or kappa opioid receptor polypeptide.

76. (withdrawn) The process of claim 75, wherein said polypeptide is a delta opioid receptor polypeptide.

77. (withdrawn) The process of claim 76, wherein said delta opioid receptor polypeptide comprises the amino acid residue sequence of SEQ ID NO:4.

78. (withdrawn) The process of claim 75, wherein said polypeptide is a kappa opioid receptor polypeptide.

79. (withdrawn) The process of claim 78, wherein said kappa opioid receptor polypeptide comprises the amino acid sequence of SEQ ID NO:2.

80. (withdrawn) The process of claim 78, wherein said kappa opioid receptor polypeptide comprises the amino acid sequence of SEQ ID NO:12.

81-96. (canceled)

97. (currently amended) A process of screening a substance for its ability to specifically bind to an opioid receptor, said process comprising the steps of:

a) expressing a recombinant opioid receptor polypeptide encoded by a nucleic acid sequence comprising at least 30 contiguous bases of SEQ ID NO:11;

b) contacting said substance with the opioid receptor polypeptide; and

c) detecting ~~the ability of~~ whether said substance has an ability to specifically bind to said opioid receptor polypeptide.

98. (previously presented) The process of claim 97, wherein said opioid receptor polypeptide is encoded by a nucleic acid sequence comprising at least 40 contiguous bases of SEQ ID NO:11.

99. (previously presented) The process of claim 98, wherein said opioid receptor polypeptide is encoded by a nucleic acid sequence comprising at least 50 contiguous bases of SEQ ID NO:11.

100. (previously presented) The process of claim 99, wherein said opioid receptor polypeptide is encoded by a nucleic acid sequence comprising at least 75 contiguous bases of SEQ ID NO:11.

101. (previously presented) The process of claim 100, wherein said opioid receptor polypeptide is encoded for by a nucleic acid sequence comprising at least 100 contiguous bases of SEQ ID NO:11.

102. (previously presented) The process of claim 101, wherein said opioid receptor polypeptide is encoded for by a nucleic acid sequence comprising at least 680 contiguous bases of SEQ ID NO:11.

103-108. (canceled)

109. (currently amended) A process of isolating a substance with an ability to act as a specific agonist of a kappa opioid receptor, said process comprising the steps of:

a) providing an opioid receptor polypeptide comprising the second extracellular loop comprising the amino acid sequence of residues 111 through 136 of SEQ ID NO:12 and encoded for by a nucleic acid sequence comprising at least 30 contiguous bases of SEQ ID NO:11;

b) contacting said opioid receptor polypeptide with a composition comprising said substance;

c) detecting ~~the ability of~~ whether said substance has an ability to ~~bind to~~ agonize said opioid receptor polypeptide; and

d) isolating said substance if ~~the ability of~~ said substance has an ability to agonize ~~specifically bind to~~ the opioid receptor polypeptide ~~is detected~~.

110-111. (canceled)

112. (previously presented) The process of claim 109, wherein said opioid receptor polypeptide is encoded by a nucleic acid sequence comprising at least 75 contiguous bases of SEQ ID NO:11.

113. (previously presented) The process of claim 112, wherein said opioid receptor polypeptide is encoded for by a nucleic acid sequence comprising at least 100 contiguous bases of SEQ ID NO:11.

114. (previously presented) The process of claim 113, wherein said opioid receptor polypeptide is encoded for by a nucleic acid sequence comprising at least 680 contiguous bases of SEQ ID NO:11.

115-122. (canceled)

123. (currently amended) The process of claim ~~143~~ 113, wherein said opioid receptor polypeptide is a kappa opioid receptor polypeptide encoded for by the polynucleotide of SEQ ID NO: 11.

124-136. (canceled)

137. (currently amended) A process of screening a substance for its ability to act as a specific agonist of a kappa opioid receptor comprising:

a) expressing a chimeric recombinant opioid receptor polypeptide comprising the second extracellular loop comprising the amino acid sequence of residues 111 through 136 of SEQ ID NO:12, wherein said chimeric opioid receptor polypeptide is encoded by a nucleic acid sequence comprising 30 contiguous bases of SEQ ID NO:11;

b) contacting said substance with the opioid receptor polypeptide; and

c) detecting whether the substance has an ~~the~~ ability ~~of the substance~~ to agonize ~~specifically bind to~~ the opioid receptor polypeptide.

138. (previously presented) The process of claim 137, wherein said nucleic acid sequence comprises 40 contiguous bases of SEQ ID NO:11.

139. (previously presented) The process of claim 137, wherein said nucleic acid sequence comprises 55 contiguous bases of SEQ ID NO:11.

140. (previously presented) The process of claim 137, wherein said nucleic acid sequence comprises 70 contiguous bases of SEQ ID NO:11.

141. (previously presented) The process of claim 137, wherein a portion of the chimeric opioid receptor polypeptide comprises SEQ ID NO:14.

142. (previously presented) The process of claim 137, wherein the chimeric opioid receptor polypeptide comprises polypeptide portions of both kappa and delta opioid receptors.

143. (previously presented) The process according to claim 97 wherein the opioid receptor polypeptide is a kappa opioid receptor polypeptide comprising SEQ ID NO:12.

144. (new) A process of screening a substance for its ability to specifically bind to an opioid receptor, said process comprising the steps of:

a) expressing a recombinant opioid receptor polypeptide comprising the second extracellular loop comprising the amino acid sequence of residues 111 through 136 of SEQ ID NO:12 and encoded by a nucleic acid sequence comprising at least 30 contiguous bases of SEQ ID NO:11;

b) contacting said substance with the opioid receptor polypeptide; and

c) detecting whether said substance has an ability to specifically bind to said opioid receptor polypeptide.

145. (new) The process of claim 144, wherein said opioid receptor polypeptide is encoded by a nucleic acid sequence comprising at least 40 contiguous bases of SEQ ID NO:11.

146. (new) The process of claim 145, wherein said opioid receptor polypeptide is encoded by a nucleic acid sequence comprising at least 50 contiguous bases of SEQ ID NO:11.

147. (new) The process of claim 146, wherein said opioid receptor polypeptide is encoded by a nucleic acid sequence comprising at least 75 contiguous bases of SEQ ID NO:11.

148. (new) The process of claim 147, wherein said opioid receptor polypeptide is encoded by a nucleic acid sequence comprising at least 100 contiguous bases of SEQ ID NO:11.

149. (new) The process of claim 148, wherein said opioid receptor polypeptide is encoded by a nucleic acid sequence comprising at least 680 contiguous bases of SEQ ID NO:11.

150. (new) The process of claim 97, wherein said substance is an antibody.

151. (new) A process of screening a substance for its ability to specifically bind to a recombinant polypeptide encoded by a nucleic acid sequence comprising at least 30 contiguous bases of SEQ ID NO:11, said process comprising the steps of:

a) expressing a recombinant polypeptide encoded by a nucleic acid sequence comprising at least 30 contiguous bases of SEQ ID NO:11;

b) contacting said substance with the recombinant polypeptide encoded by a nucleic acid sequence comprising at least 30 contiguous bases of SEQ ID NO:11; and

c) detecting whether the substance has an ability to specifically bind to said recombinant polypeptide encoded by a nucleic acid sequence comprising at least 30 contiguous bases of SEQ ID NO:11.

152. (new) The process of claim 151, wherein said polypeptide is encoded by a nucleic acid sequence comprising at least 40 contiguous bases of SEQ ID NO:11.

153. (new) The process of claim 152, wherein said polypeptide is encoded by a nucleic acid sequence comprising at least 50 contiguous bases of SEQ ID NO:11.

154. (new) The process of claim 153, wherein said polypeptide is encoded by a nucleic acid sequence comprising at least 75 contiguous bases of SEQ ID NO:11.

155. (new) The process of claim 154, wherein said polypeptide is encoded by a nucleic acid sequence comprising at least 100 contiguous bases of SEQ ID NO:11.

156. (new) The process of claim 155, wherein said polypeptide is encoded by a nucleic acid sequence comprising at least 680 contiguous bases of SEQ ID NO:11.